

REMARKS/ARGUMENTS

Status of the Claims

Claim 9 has been amended. With this amendment, claims 1-8, 11-14, 16-23, 26-31, and 39 have been canceled. Support for the amendment of claim 9 is found, *inter alia*, in the specification at page 31, lines 8-21. No new matter is added. Upon entry of the present amendment, claims 9, 10, 15, 24, 25, 32-34, and 36-38 are pending.

Examiner Interview

Applicants thank the Examiner for the helpful telephonic interview of August 29, 2006 with Applicants' representatives and in-house counsel, during which outstanding issues relating to the allowability of claims over art cited in the Office Action were clarified. The response to the Office Action below reflects the substance of what was discussed during the telephonic interview.

Claim rejection under 35 U.S.C. § 102(e): WO 01/53312

Claims 9-11, 24, 25, 32, 36, and 37 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by WO 01/53312 A1 ("Tang").

As discussed during the telephonic interview, Tang teaches nucleic acid and polypeptide sequences (SEQ ID NO: 603 and 2389, respectively, of Tang) that are nearly identical to SEQ ID NO: 1 and 2 of the present application. The Examiner states in the Office Action that "the claimed invention encompasses the screening method of the prior art [as] both screening methods comprise contacting the same polypeptide with a compound and determin[ing] whether the compound has a functional effect, which is *binding* to the polypeptide". (Emphasis added.) See Office Action at page 4. As agreed upon during the telephonic interview, Tang does not teach or suggest that the nucleic acid of SEQ ID NO: 603 encodes a SAK polypeptide or that the polypeptide of SEQ ID NO: 2389 has protein kinase activity. Accordingly, Applicants have amended claim 9 to specify, in part, a step which recites "determining a functional effect . . . wherein the functional effect is determined by measuring

kinase activity of the SAK polypeptide . . .". Because Tang does not teach or suggest this element of claim 9, as amended, Applicants respectfully request that this ground for rejection under 35 U.S.C. § 102(e) be withdrawn.

Claim rejection under 35 U.S.C. § 103(a): Tang in view of U.S. Patent No. 5,650,501

Claims 9, 15, 16, 18, 26-31 and 34 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Tang in view of U.S. Patent No. 5,650,501 ("the '501 patent").

As discussed during the telephonic interview and above, Tang is silent as to the identity or function of SEQ ID NO: 603 and 2389 as a serine/threonine protein kinase. The '501 patent discloses a sequence (SEQ ID NO: 4 of the '501 patent) which is less than 80% identical to SEQ ID NO: 2 of the present invention and SEQ ID NO: 2389 of Tang. Furthermore, while the '501 patent suggests that SEQ ID NO: 4 is a protein kinase, this suggestion is only supported by sequence homology to other known protein kinases. No direct experimental data is presented in the '501 patent to support this suggestion.

During the telephone interview, the parties agreed that an 80% or less identity would not be sufficient for one of skill in the art to conclude that SEQ ID NO: 2389 of Tang is a serine/threonine kinase of a particular class, much less, that the protein specified by SEQ ID NO: 2389 would be a SAK kinase or would be involved in regulating cell proliferation. As discussed with the Examiner, the family of protein kinases is very large and encompasses diverse sequences. Moreover, the range of substrates phosphorylated by protein kinases is very diverse, as are the cellular and physiological process regulated by protein phosphorylation. Given this, the parties agreed that an 80% or less sequence homology would not necessarily lead a skilled artisan to conclude that SEQ ID NO: 2389 of Tang was a SAK kinase or that the specified protein would be involved in regulating cell proliferation. Because the disclosure in the '501 patent is too attenuated to provide sufficient guidance as to the function of SEQ ID NO: 2389 of Tang, the combination of these references does not teach or suggest claim 9, as amended, which recites, in part, "determining a functional effect . . . wherein the functional effect is determined by measuring kinase activity of the SAK polypeptide . . .".

In view of the foregoing, the skilled artisan would have no motivation or suggestion to believe that the methods disclosed in the '501 patent could be carried out using the sequences disclosed in Tang to arrive at the presently claimed invention. Absent impermissible hindsight reconstruction using information derived from Applicants' specification, the skilled artisan would have no reason to combine the disclosures of Tang and the '501 patent. Accordingly, Applicants respectfully request that this ground for rejection under 35 U.S.C. § 103(a) be withdrawn.

Claim rejection under 35 U.S.C. § 103(a): Tang in view of U.S. Patent No. 5,650,501 and further in view of U.S. Patent No. 5,959,081

Claims 9, 15, and 20-23 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Tang in view of the '501 patent and U.S. Patent No. 5,959,081 ("the '081 patent"). This rejection is respectfully traversed. As discussed above, there is no motivation or suggestion to combine the disclosure of Tang and the '501 patent. Furthermore, there is no motivation or suggestion to further include the disclosure of the '081 patent, because the '081 patent does not disclose or suggest anything about serine/threonine kinases in general or SAK kinases in particular that would lead the skilled artisan to combine Tang and the '501 patent. Accordingly, Applicants respectfully request that this ground for rejection under 35 U.S.C. § 103(a) be withdrawn.

Claim rejection under 35 U.S.C. § 103(a): Tang in view of U.S. Patent No. 5,650,501 and further in view of U.S. Patent No. 5,589,356

Claims 9, 37, and 38 stand rejected under 35 U.S.C. § 103(a) as allegedly obvious over Tang in view of the '501 patent and U.S. Patent No. 5,589,356 ("the '356 patent"). This rejection is respectfully traversed. As discussed above, there is no motivation or suggestion to combine the disclosure of Tang and the '501 patent. Furthermore, there is no motivation or suggestion to further include the disclosure of the '356 patent, because the '356 patent does not disclose or suggest anything about serine/threonine kinases in general or SAK kinases in

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PATENT

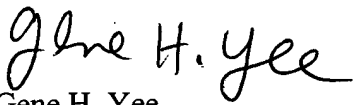
particular that would lead the skilled artisan to combine Tang and the '501 patent. Accordingly, Applicants respectfully request that this ground for rejection under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 925-472-5000.

Respectfully submitted,


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